

**REMARKS**

Applicants appreciate the Examiner's thorough review of the present application, and respectfully request reconsideration in light of the preceding amendments and the following remarks.

Claims 28-30 and 35-44 are pending in the application. Claim 39 has been amended to correct a clerical error. The amended claim finds solid support in the original specification, e.g., paragraph 0058. No new matter has been introduced through the foregoing amendments.

The new *35 U.S.C. 103(a)* rejection of all claims as being obvious over *Hideo* in view of *Ishibuchi* is noted. Applicants respectfully traverse the rejection for the following reasons.

1. *Ishibuchi* is not prior art to the present invention. The reference date of *Ishibuchi*, i.e., its JP publication date, is October 21, 2004 which postdates the claimed priority date of the instant application, i.e., September 8, 2004. Therefore, Applicants respectfully submit that the new rejection relying *Ishibuchi* is improper and should be withdrawn.

Notwithstanding the above and solely for the purpose of expediting prosecution, Applicants will further address the rejection in detail.

2. The Office is of the opinion that *Hideo* does not teach varying the first torque component and the second torque component during a cutting process; however, *Ishibuchi* teaches varying torque during a cutting process for making proper cuts on a web. In addition, the Office states that change in speed causes change in torque. The Office then concludes that it would have been obvious to one skilled in the art at the time the invention was made to vary the first torque component and the second torque component during a cutting process as taught by *Ishibuchi* for making proper cuts on the web. Applicants respectfully disagree with the Office's position.

Independent claim 28 recites, among other things,

determining an amount of cutting torque (Txa+Txb) necessary for the knives to cut off the web, based on the basic weight and the feeding speed of the web;

while the web is being cut during a cutting period from a cutting start time (tc) to a cutting completion time (to), driving the following knife and the preceding knife respectively with a first torque component Txa and a second torque component Txb of the cutting torque in the direction in which the preceding knife and the following knife are pressed against each other, wherein the first torque component Txa and the second torque component Txb have opposite signs; and

during the cutting period between the cutting start time (tc) and the cutting completion time (to), varying an absolute value of the first torque component Txa or the second torque component Txb.

A method of cutting a web in accordance with embodiments of the invention defined in claim 28, can realize an accurate cutting operation at high cutting speed, as discussed in the specification of the instant application.

As admitted in the Office Action, *Hideo* does not teach or suggest the highlighted feature that “while the web is being cut, varying an absolute value of the first torque component Txa or the second torque component Txb” recited in independent claim 28. The claim feature is neither disclosed, taught nor suggested by *Ishibuchi* as applied in the Office Action.

*Ishibuchi* includes a teaching that an upper knife cylinder 2 and a lower knife cylinder 3 are controlled so as to rotate, while keeping a small speed difference between the knives, when a corrugated board web 1 is being cut by the upper knife 13 and the lower knife 14. The Office alleges that the subject matter of claim 28 would have been obvious because change in speed, as taught by *Ishibuchi*, causes change in torque as claimed.

However, the technique described in the cited portion of *Ishibuchi* does not control torque; rather, it controls the upper and lower knife cylinders 2 and 3 while keeping the speed difference of the knives. Even assuming *arguendo* that the Office is correct in that torque changes as a result of a change in speed, *Ishibuchi* as applied in the Office Action does not focus on controlling torque,

unlike claim 28. In addition, *Ishibuchi* as applied in the Office Action does not change the absolute value of the speed difference while the web is being cut.

It is acknowledged that *Ishibuchi* teaches adjusting the rotating torque in paragraphs [0042] and [0045]. However, this rotating torque adjustment is to limit the clearance of cutting edges of the upper and lower knives 13 and 14 to be within an allowable range. In addition, the absolute value of the rotating torque is not changed while the web is being cut. Therefore, the *Ishibuchi* teaching of rotating torque adjustments is different from the cutting torque adjustment of claim 28.

The Office is requested to obtain a complete and accurate translation of the *Ishibuchi* reference to verify Applicants' position.

It should be now clear that the subject matter of claim 28 is directed to the cutting torque and to varying an absolute value of the first torque component  $T_{xa}$  or the second torque component  $T_{xb}$  during the cutting period between the cutting start time ( $t_0$ ) and the cutting completion time ( $t_1$ ). None of the references as applied in the Office Action teach or suggest the claim feature, and therefore, the invention of independent claim 28 is patentable over the applied art of record.

It should be further noted that since the claim features of claim 28 are neither disclosed, taught nor suggested by the references as applied in the Office Action, the applied references also fail to achieve an accurate cutting operation at high cutting speed, unlike embodiments of the claimed invention.

The claimed invention is, thus, both structurally and functionally patentable over the applied art of record.

Withdrawal of the rejection of independent claim 28 is now believed appropriate and therefore respectfully requested.

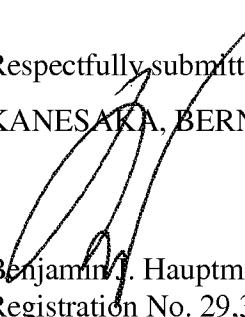
The dependent claims are considered patentable at least for the reason(s) advanced with respect to the respective independent claim(s).

3. The *35 U.S.C. 112, second paragraph* rejection of claim 39 is believed overcome in view of the above amendment.

Accordingly, Applicants respectfully submit that all claims are now in condition for allowance. Early and favorable indication of allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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